

Communication Accessories

About IEI (Iran Electronics Industries)

Iran Electronics Industries (IEI) as the largest company in the fields of Electronic, Telecommunication, Defensive and Commercial Electro optics in the country meanwhile, industrial and technical interactions with more than 170 technological companies and establishment of 14 technological joint centers with domestic authentic universities, provides types of electronic products and services such as Radar, Electronic Warfare (EW), IT, Secure and Reliable Communication, Optics and Laser, Cyber defensive, Electronic Components, and required Space Systems for military forces and defensive industries in order to establish and increase the deterrent power and defense.



About ICI (Iran Communications Industries)

Iran communications industries (ICI) affiliated to Iran Electronics Industries (IEI) was established in 1972 with more than 35 years of credible reputation directed to manufacture diversity of communication means and participate in all international tenders with over 1000 skilled and educated personnel and lustrous background of successful experience is the main producer and designer of military/paramilitary communication equipment and total solution in Iran and middle east.

The principal mission of ICI is researching, designing and manufacturing various types of communication systems in military/non- military fields; as well as designing and implementing total solutions such as EW, C4I, jamming networks and ECCM systems in order to establish a stable, secured and flexible communication with a suitable capacity and also developing and open architecture radio waveform technology that allows multiple radio types to communicate with each other with the goal of meeting diverse communications through the latest and state of art technology communication means & networks.

Also ICI has the capability of repairing, renewing, manufacturing and assembling different types of communication means, as well as providing after sales services and technical consulting to have a continual improvement and development.

Effective presence and implementing national projects in the fields of communication with the cooperation of IN/OUT companies and exporting various kinds of communication products, technical engineering services to foreign countries are important pace in renewing and developing our national industry.

Concentrating on time, cost and quality management, developing human resources, and staff motivation are our main purposes.

Communication Accessories

Contents

PTM-210/E Pneumatic Telescopic Mast	4
WTM-210/E Winch Telescopic Mast	5
WTM-220/E Winch Telescopic Mast	6
3 Legs-Angular Tower	7
4 Legs-Angular Tower	
Guyed Tower	9
WHA-210/E Whip Antenna	10
SCA-210/E Sectional Antenna	
SCA-220/E Sectional Antenna	12
VRA-210/E Vehicular Rod Antenna	13
VRA-211/E Vehicular Rod Antenna	14
VRA-212/E Vehicular Rod Antenna	15
DSA-210/E Discone Antenna	16
FXA-210/E Fixed Dipole Array Antenna	17
FXA-211/E Fixed Dipole Array Antenna	
FXA-212/E Fixed Dipole Array Antenna	
YGA-210/E Yagi Antenna	
YGA-211/E Yagi Antenna	
YGA-212/E Yagi Antenna	
YGA-213/E Yagi Antenna	
FXA-213/E Marine Fixed Composite Rod Antenna	
FXA-220/E Omni-Directional Fixed Antenna	
CXA-210/E Marine Coaxial Dipole Antenna	
CXA-211/E VHF Coaxial Dipole Antenna	
CXA-212/E UHF Coaxial Dipole Antenna	
CXA-213/E UHF Coaxial Dipole Antenna	
CRA-210/E Corner Reflector Antenna	
BLA-212/E V/U Blade Antenna	31
ODA-210/E HF Omni-Directional Base Station Antenna	32
WRA-210/E HF Dipole Wire Antenna	33
FDA-210/E Folded Dipole Antenna	34
FDA-211/E Folded Dipole Antenna	35
NVA-210/E NVIS Antenna	
NVA-211/E NVIS Antenna	38
ANR-210/E Antenna Rotator	40
ANR-220/E Antenna Rotator	41
ANR-250/E Antenna Rotator	42
ANR-260/E Antenna Rotator	43
CHR-130/E Battery Charger	44
CHP-130/E Battery Charger & Power Supply	45
PWS-130/E Switching Power Supply	46
PWS-131/E Switching Power Supply	47
PWS-140/E Switching Power Supply	48
CON-110/E Voltage Converter	49
CON-120/E Voltage Converter	
U1 Cavity Filter	
FLT-530/E Filter	
HNS-010/E Handset	53
HNS-011/E Handset	

Contents

HDS-020/E Headset	55
HDS-021/E Headset	
HDS-030/E Headset	
Armored Communication Helmet	58
DPX-020/E Diplexer	60

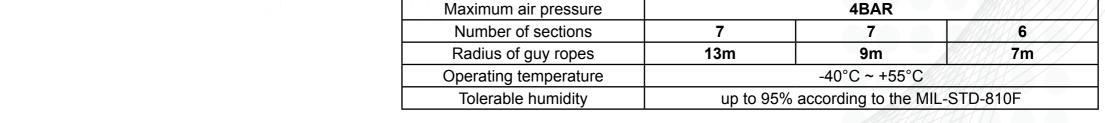
PTM-210/E Pneumatic Telescopic Mast



This pneumatic mast is mostly used in tactical and military area. The pipes are made of T6-6061 aluminum and are used after anodizing and sizing process for increasing the tolerance of the pipes to keep heavy antennas at the top section.

Technical Specifications





WTM-210/E Winch Telescopic Mast

WTM-210/E is one of the newest products of the company designed and manufactured for establishing communication and tactical operations. This mast can be used stationary and on a vehicle.

Technical Specifications

Description	17m Mast	12m Mast	
Maximum length	17m	12m	
Minimum length	3.5m	3m	
Weight of mast	145kg	120kg	
Weight of accessories	45	kg	
Tolerable weight	70	kg	
Wind loading	1r	m²	
Number of sections		6	
Radius of guy ropes	18m	12m	
Winch type	220VAC el	ectromotor	
Operating temperature	-20°C ~	- +50°C	
Storage temperature	-40°C ~	-40°C ~ +80°C	
Environmental standard	MIL-ST	D-810F	

WTM-220/E Winch Telescopic Mast



WTM-220/E consists several pipes made of anodized extruded aluminum 6061 with circle/hexagonal section including screws and riveted stainless steel equipment. The pipes are moved inside each other through plastic guide rails.

Technical Specifications

Description	17m Mast	12m Mast
Maximum length	17m	12m
Minimum length	3.5m	3.2m
Weight of mast	65kg	50kg
Weight of accessories	45	kg
Tolerable weight	50kg	55kg
Wind loading	1	m²
Radius of guy ropes	18m	12m
Winch type	220VAC electrical/manual	
Operating temperature	-20°C -	- +60°C
Storage temperature	-40°C ~ +80°C	
Environmental standard	MIL-ST	D-810F

3 Legs-Angular Tower

3 legs-angular towers are lattice form towers with 3 legs. Advantage of these towers in comparison with guyed towers is to benefit minimum available establishment area. This type of towers can hold various antennas as well as bearing wind different forces.



Capabilities

- ✓ Easy establishment
- ✓ Establishing on the grounds with different hardness
- ✓ Long life time (10 years after sales services)
- ✓ Easy lowering and movement
- ✓ Installing various types of antenna (monopole/parabolic)
- ✓ Strength and stability against wind speed (up to 130 Km/h)

General Specifications

Type of towers	various guyed towers with up to 120m height
3/4 legs base (triangle/square)	dimension of tower base is designed and calculated depending on the applied load
Number of guy ropes	designed and calculated depending on desired load
Dimension of the foundation	calculated & defined depending on soil type & applied forces
Tower wind loading (FPA)	depends on the customer's request & is different for each tower (depending on number of dishes & other equipment
Base dimension	both types of G35 & G45 can be designed & manufactured
Plating	hot galvanized with coverage depth of 120 to 150 µm (for sultry zones) & 85 to 120 µm (for other zones) according to the standard
Screws and nuts	high quality with the grade of 8.8 and hot galvanized
Tower standard	TIA-EIA-222-F or TIA-222-G according to the customer's request

4 Legs-Angular Tower

4 legs-angular towers are lattice form towers with 4 legs. Usually all of the tower's components are manufactured using angle bars connected to each other via screw and nut. These towers are considered for high loads and ordinarily for more than 24m heights.



Capabilities

- √ Easy establishment
- ✓ Establishing on the grounds with different hardness
- ✓ Long life time (10 years after sales services)
- ✓ Easy lowering and movement
- ✓ Installing various types of antenna (mono- pole/parabolic)
- ✓ Strength and stability against wind speed (up to 130 Km/h)

General Specifications

various guyed towers with up to 120m height
3/4 legs (triangle/square)
designed and calculated depending on desired load
calculated & defined depending on soil type & applied forces
depends on the customers request & is different for each tower (depending on number of dishes & other equipment)
both types of G35 & G45 can be designed and manufactured
hot galvanized with coverage depth of 120~150µm (for sultry zones) & 85~120µm (for other zones) according to the standard
high quality with the grade of 8.8 & hot galvanized
TIA-EIA-222-F or TIA-222-G according to the customer's request
up to 18m

Guyed Tower

Guyed towers are the towers held on the ground or other locations using guy ropes. Advantage of these towers is light weight and they are established where enough space is available. Often guyed towers are considered for mobile phone and radio network as well as computer networks. These towers can be established on building roof so that its height added to the tower's height as an advantage in cities.



Capabilities

- √ Easy establishment
- ✓ Establishing on the grounds with different hardness
- ✓ Long life time (10 years after sales services)
- ✓ Easy lowering and movement

General Specifications

various guyed towers with the base of G35, G45 & up to 120m height
3/4 legs (triangle/square)
designed and calculated depending on desired load
calculated and defined depending on soil type and applied forces
depends on the customer>s request and is different for each tower (depending on number of dishes and other equipment)
both types of G35 and G45 can be designed and manufactured
hot galvanized with coverage depth of 120~150 µm (for sultry zones) & 85~120µm (for other zones) according to the standard
high quality with the grade of 8.8 & hot galvanized Material steel
TIA-EIA-222-F or TIA-222-G according to the customer's request

WHA-210/E Whip Antenna

WHA-210/E is a monopole antenna designed and manufactured for establishing VHF-LB radio communication along with handheld radios. Radiation rod of the antenna is made of resilient flexible multilayer strips with capability of proper electrical conduction.

Technical Specifications

Frequency range	30 ~ 88 MHz
Maximum input power	5W
VSWR	less than 2.8
Impedance	50Ω
Connector type	male TNC
Polarization	vertical
Radiation pattern	Omni-directional
Total length of the antenna (with matching)	763mm
Length of the antenna rod	720mm
Total weight of the antenna	140 ± 10 gr
Operating temperature	33°C ~ +65°C
Storage temperature	40°C ~ +71°C
Environmental standard	



SCA-210/E Sectional Antenna



SCA-210/E has been designed and manufactured for establishing communication in military HF/VHF band and frequency range of 2 ~ 30 MHz/30 ~ 88 MHz. This antenna is a monopole rod antenna and used for installing on manpack radios. Polarization of the antenna is vertical. It is consists of 7 individual rods with maximum length of 2.9m so that can be folded. Base of the antenna is made of steel with flexible plastic cover.

Technical Specifications

Frequency range	2 ~ 30 MHz/30 ~ 88 MHz
Maximum tolerable input power	50W
Connector type	special (PRC77 type)
Operating temperature	33°C ~ +65°C
Storage temperature	40°C ~ +70°C
Length (without spring base)	2.9m
Antenna material	CK-45 steel
Total weight (with spring base)	535gr
Antenna weight (without base)	260gr
Polarization	vertical
Resisted against	shock
Environmental standard	MIL-STD-810F

SCA-220/E Sectional Antenna



SCA-220/E is a monopole rod antenna designed and manufactured for establishing tactical radio communication in frequency range of 30 ~ 90 MHz (military VHF band). This antenna including 4 individual sections with total length of 1.5m and folding capability is installed on manpack radios. Polarization of the antenna is vertical.

Technical Specifications

Frequency range	30 ~ 90 MHz
Impedance	50Ω
VSWR	1.3
Polarization	vertical
Application	manpack
Maximum input power	
Radiation pattern	Omni-directional
Matching	
Connector type	male TNC/BNC
Radiator material	brass
Antenna length	1.5m
Antenna weight	900gr
Standard color	black
Operating temperature	33°C ~ +65°C
Storage temperature	40°C ~ +70°C
Environmental standard	

VRA-210/E Vehicular Rod Antenna

VRA-210/E is a vehicular monopole antenna designed and manufactured for establishing communication in VHF band and frequency range of 30 ~ 88 MHz as a monopole antenna. This antenna can be used as a stationary antenna along with installation base or as vehicular antenna for all transmitters in the VHF-LB band. In order to install the antenna stationary, its special base is needed to provide the antenna ground.

Stationary antenna with capability of installation on 10m light mast with special base and ground

plate is manufactured as optional antenna.

Technical Specifications

Frequency range	30 ~ 88 MHz
Input power	
VSWR	less than 3
Impedance	50Ω
Gain	4 ~ +2 dBi
Connector type	female BNC
Type of RF supply cable	RG58/U
Polarization	vertical
Operating temperature	33°C ~ +65°C
Weight	2.1kg
Antenna length	1.85m
Maximum thickness of installation area	25mm
Diameter of installation hole	50mm
Environmental standard	MIL-STD-810F

14

VRA-211/E Vehicular Rod Antenna

VRA-211/E is a wideband monopole antenna designed and manufactured for installing on various military vehicles such as personnel carriers, tanks, military trucks, shelters, and other tactical vehicles to establish radio communication in the VHF-LB frequency range so that there is no need to operator for changing the frequency band.

Technical Specifications

VRA-212/E Vehicular Rod Antenna

This antenna can be installed on various vehicles and has been designed and manufactured for establishing communication in HF band and frequency range of 2 ~ 30 MHz as a monopole antenna. Polarization of the antenna is vertical. VRA-212/E includes four 1.5m composite sections resisted against corrosion and shock so that mounted on each other using particular connections (made of stainless steel). Special rope is needed for keeping the antenna on vehicle.

Technical Specifications

Frequency range	2 ~ 30 MHz (using tuner system)
Maximum tolerable power	100W
VSWR	less than 2
Operating temperature	33°C ~ +65°C
Weight (with base)	7kg
Length	6m
Material of the antenna	composite with copper core
Material of the base	plated steel
Material of composite pipe interface	stainless steel
Polarization	vertical
Resisted against	spark, corrosion, and shock
Environmental standard	MIL-STD-810F



DSA-210/E Discone Antenna

DSA-210/E discone or truncated antenna is designed and manufactured for operating in several octaves of frequency bandwidth. Although often this antenna is used for establishing stationary ground/airborne communication, it can be operated as a vehicular antenna. Using discrete aluminum cone elements instead of indiscrete cone increases antenna resistance as well as providing capability of operating the antenna in higher wind speed.



Technical Specifications

Frequency range	100 ~ 200 MHz
VSWR	less than 2
Maximum input power	100W
Polarization	vertical
Radiation pattern	Omni-directional
Gain	
Impedance	
Height	
Diameter of the antenna base	
Total weight of the antenna	4.1kg
Connector type	_
Operating temperature	33°C ~ +65°C
Storage temperature	
Environmental standard	

FXA-210/E Fixed Dipole Array Antenna

FXA-210/E has been designed and manufactured for establishing VHF radio communication in frequency range of 138 ~ 174 MHz (in three bands with Intermediate Frequency of 144, 153, and 165 MHz). Due to wide bandwidth of the antenna (12MHz), it can be operated for various communication goals specially the environment, forestry, fire station, police, and military forces. This antenna consists of four dipoles installed on the antenna body with the same distances.

Technical Specifications

Frequency range	138 ~ 174 MHz
Wide bandwidth (in three different models)	12MHz
Impedance	50Ω
VSWR	less than 1.5
Omni-directional gain	
Directional gain	
Input power	500W
Input powerPolarization	vertical
Vertical radiation width	
Horizontal radiation width	about 160°
Antenna material	
Tolerable wind speed	•
Weight	
Connector type	_
Antenna length	
F/B	
Operating temperature	
Storage temperature	
Environmental standard	



FXA-211/E Fixed Dipole Array Antenna

This antenna has been designed and manufactured for establishing VHF radio communication. It consists of four dipoles coupled together as array with 0, 90, 180, and 270 angles to provide Omnidirectional radiation pattern with proper gain using their reflectors. By arranging all four dipoles toward one of the mentioned angles, directional radiation is received from the same direction with higher gain.

Technical Specifications

Frequency range	147 ~ 159 MHz
Impedance	50Ω
VSWR	less than 1.5
Omni-directional gain	maximum 6dBi
Directional gain	9dBi
F/B	<7dB
Polarization	
Directional radiation width	160° in horizontal (H) sheet
	17° in vertical (E) sheet
Maximum input power	500W
Connector type	
Antenna length	
Antenna weight	8.5kg
Tolerable wind speed	
Operating temperature	
Storage temperature	40°C ~ +71°C
Environmental standard	MII -STD-810F



FXA-212/E Fixed Dipole Array Antenna

This antenna has been designed and manufactured for establishing VHF radio communication. It consists of four dipoles coupled together as array with 0, 90, 180, and 270 angles to provide Omnidirectional radiation pattern with proper gain using their reflectors. By arranging all four dipoles toward one of the mentioned angles, directional radiation is received from the same direction with higher gain.

Technical Specifications

Frequency range	159 ~ 171 MHz
Impedance	
VSWR	less than 1.5
Omni-directional gain	6dBi
Directional gain	9dBi
F/B	<7dB
Polarization	
Directional radiation width	160° in horizontal (H) sheet
	17° in vertical (E) sheet
Maximum input power	500W
Connector type	male N
Antenna length	6.5m
Antenna weight	8kg
Tolerable wind speed	
Operating temperature	33°C ~ +65°C
Storage temperature	
Environmental standard	MIL-STD-810F



YGA-210/E Yagi Antenna



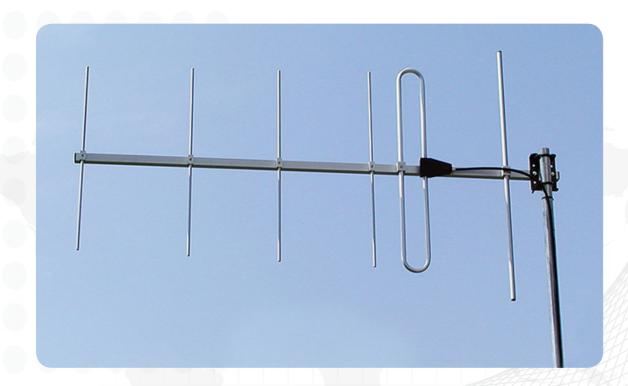
This is a directional multi-element array antenna operated as a stationary antenna. Electrical features of this antenna family depends on number of the elements used in antenna structure. Polarization of the antenna can be changed depending on its installation horizontally/vertically.

YGA-210/E includes three elements designed and manufactured for VHF frequency band. All metallic components of the antenna are made of stainless steel connected to each other from DC and are grounded.

Technical Specifications

Frequency range	139 ~ 149 MHz
Impedance	50Ω
VSWR	less than 1.5
Directional gain	maximum 7dBi
F/B	13.5dB
Polarization	horizontal/vertical
Radiation width	70° half power in the E sheet
	120° half power in the H sheet
Maximum input power	100W
Maximum input power Connector type	
	male N
Connector type	male N 1350mm
Connector typeAntenna length	male N 1350mm 1050mm
Connector typeAntenna lengthAntenna width	male N 1350mm 1050mm 2.5kg
Connector type Antenna length Antenna width Total weight of the antenna	male N 1350mm 1050mm 2.5kg 33°C ~ +65°C
Connector type	male N 1350mm 1050mm 2.5kg 33°C ~ +65°C 40°C ~ +70°C

YGA-211/E Yagi Antenna



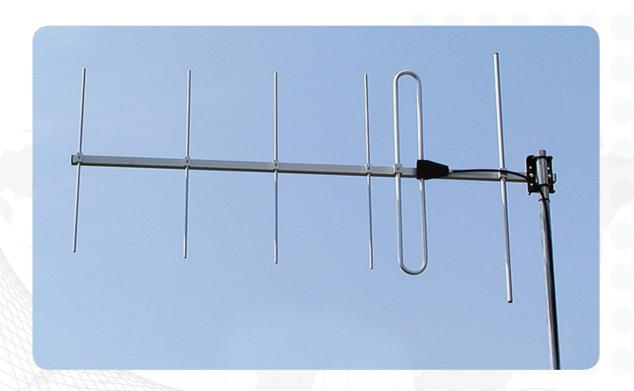
This is a directional multi-element array antenna operated as a stationary antenna. Electrical features of this antenna family depends on number of the elements used in antenna structure. Polarization of the antenna can be changed depending on its installation horizontally/vertically.

YGA-211/E includes five elements designed and manufactured for VHF frequency band. All metallic components of the antenna are made of stainless steel connected to each other from DC and are grounded.

Technical Specifications

Frequency range	144 ~ 160 MHz
Impedance	
VSWR	
Directional gain	maximum 10dBi
F/B	
Polarization	horizontal/vertical
Radiation width	70° half power in the E sheet
	120° half power in the H sheet
Maximum input power	100W
Connector type	male N
Antenna length	2570mm
Antenna width	
Total weight of the antenna	4kg
Operating temperature	33°C ~ +65°C
Storage temperature	
- I A I I I I I I I I I I I I I I I I I	
Environmental standard	MIL-STD-810F

YGA-212/E Yagi Antenna



This is a directional multi-element array antenna operated as a stationary antenna. Electrical features of this antenna family depends on number of the elements used in antenna structure. Polarization of the antenna can be changed depending on its installation horizontally/vertically.

YGA-212/E includes five elements designed and manufactured for VHF frequency band. All metallic components of the antenna are made of stainless steel connected to each other from DC and are grounded.

Technical Specifications

Frequency range	157 ~ 174 MHz
Impedance	50Ω
VSWR	
Directional gain	maximum 11dBi
F/B	13.5dB
Polarization	horizontal/vertical
Radiation width	70° half power in the E sheet
	120° half power in the H sheet
Maximum input power	100W
Connector type	male N
Antenna length	
Antenna width	900mm
Total weight of the antenna	4kg
Operating temperature	
Storage temperature	
Environmental standard	

YGA-213/E Yagi Antenna



This is a directional multi-element array antenna operated as a stationary antenna. Electrical features of this antenna family depends on number of the elements used in antenna structure. Polarization of the antenna can be changed depending on its installation horizontally/vertically.

YGA-213/E includes three elements designed and manufactured for UHF frequency band. All metallic components of the antenna are made of stainless steel connected to each other from DC and are grounded.

Technical Specifications

Frequency range	380 ~ 400 MHz
Impedance	
VSWR	less than 1.5
Directional gain	
F/B	16dB
Polarization	horizontal/vertical
Radiation width	120° half power directional
Maximum input power	•
Connector type	
Antenna length	400mm
Antenna width	380mm
Total weight of the antenna	1.6kg
Operating temperature	
Storage temperature	
Environmental standard	

FXA-213/E Marine Fixed Composite Rod Antenna

This antenna is used inside vessels as transmitter/receiver antenna in frequency range of $2 \sim 30$ MHz along with the related ATU compatible with all available HF radios. FXA-213/E is a vertical monopole antenna and needs a proper tuner system and ground plate for desirable function.

Technical Specifications

Frequency range	2 ~ 30 MHz
Maximum input power	
VSWR	less than 2
Polarization	vertical
Connector type	cable and cable shoe
Radiation pattern	Omni-directional
Radiator material	copper conductor
Operating temperature	33°C ~ +65°C
Storage temperature	40°C ~ +70°C
Height	792.5 ± 0.1 cm
Weight	6.3 ± 0.1 kg
Environmental standard	MIL-STD-810F

FXA-220/E Omni-Directional Fixed Antenna

FXA-220/E has been designed and manufactured for establishing radio communication in frequency range of 225 ~ 400 MHz. Radiation pattern of the antenna is Omni-directional horizontally. This antenna is capable to cover a wide area due to its wide frequency coverage in the UHF band and high power of wave transmission.

Technical Specifications

Frequency range	225 ~ 400 MHz
Polarization	
Maximum power	250W
Impedance	50Ω
Connector type	female N
VSWR	less than 2
Maximum gain	3.4 dBi
Antenna weight	
Antenna dimension	75 × 5.11 cm
Antenna material	aluminum alloy
Material of the antenna cover	fiberglass
Operating temperature	30°C ~ +55°C
Storage temperature	40°C ~ +70°C
Resisted against	salt fog, environmental conditions, humidity, and
	rain
Environmental standard	MIL-STD-810F
Installation capability	on vehicle and communication masts

CXA-210/E Marine Coaxial Dipole Antenna

CXA-210/E coaxial dipole antenna is a VHF wideband receiver/transmitter antenna designed and manufactured for establishing radio communication between the radios. This low size and light weight antenna is used in frequency range of 136~174 MHz.

Technical Specifications

Frequency range	136 ~ 174 MHz
Maximum gain	2dBi
Radiation pattern	Omni-directional
VSWR	
Tolerable power	20W
Input connector	PL-259
Input impedance	50Ω
Polarization	vertical
Antenna length	
Weight	840 ± 50 gr
Material	•
Operating temperature	•
Storage temperature	
Environmental standard	



CXA-211/E VHF Coaxial Dipole Antenna

This antenna has been designed and manufactured for establishing communication in frequency range of 100-174 MHz. Propagation pattern of the antenna in horizontal space is Omni-Directional and it does not need ground plate.

Technical Specifications

Frequency range	100 ~ 174 MHz
Maximum input power	100W
Input impedance	
VSWR	2 to 1
Connector type	female N
Antenna weight	3kg
Tolerable wind speed	
Operating temperature	33°C ~ +65°C
Storage temperature	40°C ~ +71°C
Environmental standard	MIL-STD-810F



CXA-212/E is a dipole antenna designed and manufactured for establishing communication in frequency range of 100 ~ 1300 MHz. Today Ultra-Wideband (UWB) Antennas are considered for different communication and Electronic Warfare applications extensively. In radio communication, using combiner and multicoupler, this antenna can be used for several radios simultaneously.



Frequency range	100 ~ 1300 MHz
Maximum input power	100W
Polarization	vertical
Matching	passive
VSWR	•
Connector type	female N
Radiation pattern	
Radiator material	
Gain	2dBi
Dimension	110 × 31 ± 0.5 cm
Weight	5.5 ± 0.5 kg
Operating temperature	•
Storage temperature	
Environmental standard	



CXA-213/E UHF Coaxial Dipole Antenna

CXA-213/E is a coaxial dipole antenna designed and manufactured for establishing communication in frequency range of 225 ~ 400 MHz. polarization of the antenna is vertical and its radiation pattern is Omni-directional. Whereas this antenna is resisted against corrosion, it can be used as a marine antenna.

Technical Specifications

Frequency range	225 ~ 400 MHz
Maximum input power	
Input impedance	50Ω
VSWR	less than 2
Connector type	female N
Antenna weight	about 2kg
Tolerable wind speed	120km/h
Operating temperature	33°C ~ +65°C
Storage temperature	40°C ~ +70°C
Environmental standard	MII -STD-810F

CRA-210/E Corner Reflector Antenna



CRA-210/E is a stationary antenna designed and manufactured for frequency range of $225 \sim 400$ MHz (UHF band). Usually this antenna is used along with tactical radio relays.

Technical Specifications

Frequency range: 225 ~ 400 MHz

Impedance: 50Ω

Polarization: horizontal/vertical (adjustable)

Minimum gain: 9.5dBi Transmitting power: 50W VSWR: less than 2 to 1

Radiation width: vertical: 60°/horizontal: 50°

Reflector dimension: 0.8 × 0.8 m

Tolerable wind speed: maximum 120km/h
Operating temperature: -33°C ~ +65°C
Antenna material: aluminum alloy
Environmental standard: MIL-STD-810F

BLA-212/E V/U Blade Antenna

BLA-212/E antenna is a blade family antenna with aerodynamic shape designed and manufactured for installing on planes with up to 2.2 Mach speed. Mission of this antenna is to provide VHF/UHF communication coverage from air-to-air between planes and or air-to-ground between plane and air traffic control tower. BLA-212/E benefits from necessary strength for flight conditions and it is resisted against corrosion and lightning.



Technical Specifications

Transmitting frequency range	118 ~ 174 MHz/225 ~ 400 MHz
Receiving frequency range	108 ~ 118 MHz
Impedance	50Ω
VSWR (transmitting mode)	maximum 2.7 to 1
Gain	minimum -9dBi/maximum 0dBi
Polarization	vertical
Radiation pattern	Omni-directional
Maximum input power	
Protecting against static electricity	DC Grounded
Connector type	female TNC
Antenna height	300mm
Antenna length	276mm
Antenna width	83mm
Total weight of the antenna	1150 ± 30 gr
Speed	2.2 Mach
Drag force	3.7 pound in 0.85 Mach speed and 35000 feet
	height
Vibration	10 g
Operating temperature	54°C ~ +71°C
Flight height	
Environmental standard	

ODA-210/E HF Omni-Directional Base Station Antenna

ODA-210/E as an X-type antenna with Omni-directional pattern is used for establishing high quality and reliable communication in short/medium distances. This antenna includes three main parts that are radiation rods, Antenna Tuning Unit (ATU), and balloon. High radiation angle in less than 8Hz and installation height of 5 ~ 7 m can provide the NVIS communication capability. In this antenna, no individual control line is used for sending the commands to the antenna control unit and all information are sent via the RF supply cable connected to the antenna.



Technical Specifications

2 ~ 30 MHz
150W PEP
less than 2
horizontal
50Ω
2 ~ 5 W
female N
24 ~ 28 V
less than 6s
Omni-directional
10.7 × 4.4 m
5 ~ 7 m
120km/h
37.5Kg
30°C ~ +60°C
40°C ~ +70°C
MIL-STD-810F

WRA-210/E HF Dipole Wire Antenna



WRA-210/E is a HF dipole wire antenna signed on its wire for frequency range of $3 \sim 30$ MHz. Operating frequency of the antenna is selected by the operator and set as stationary antenna horizontally or in configuration of reverse V using the antenna accessories.

Technical Specifications

Frequency range	3 ~ 30 MHz
Impedance	
Maximum input power	
Connector type	
Antenna tolerable tension	
VSWR	
Polarization	horizontal
Radiation pattern	
Supply cable	RG-58 (10m)
Weight (with antenna bag and accessories	s)7kg
Dimension of packing bag	60 × 30 cm
Needed installation area	maximum radius of 52m
Antenna installation height	minimum 5m
Operating temperature	33°C ~ +65°C
Storage temperature	40°C ~ +71°C
Environmental standard	MIL-STD-810F

FDA-210/E Folded Dipole Antenna

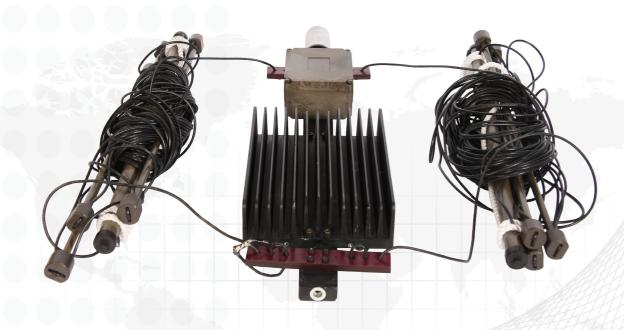


This antenna has been designed and manufactured for establishing HF communication (frequency range of $2 \sim 30$ MHz) in fixed stations. Matching circuit of the antenna is a passive type and meets necessary standards. FDA-210/E can be connected to all HF radio transmitters with up to 100W power.

Technical Specifications

Frequency range	3 ~ 30 MHz
Tolerable power	100W CW - 150W PEP
Impedance	50Ω
Connector type	female PL-259
VSWR	less than 3
Operating temperature	33°C ~ +65°C
Antenna length	34m
Weight	4.5kg
Polarization	horizontal
Length of supply cable	30m
Total weight (with packing)	about 12.5kg
Needed installation area	at least 40m
Environmental standard	MIL-STD-810F

FDA-211/E Folded Dipole Antenna



This antenna has been designed and manufactured for establishing HF communication (frequency range of $2 \sim 30$ MHz) in fixed stations. Matching circuit of the antenna is a passive type and meets necessary standards. FDA-210/E can be connected to all HF radio transmitters with up to 400W power.

Technical Specifications

Frequency range	3 ~ 30 MHz
Tolerable power	
Impedance	50Ω
Connector type	
VSWR	
Operating temperature	33°C ~ +65°C
Antenna length	
Weight	
Polarization	
Length of supply cable	
supplay cable type	
Total weight (with packing)	
Needed installation area	_
Environmental standard	

NVA-210/E NVIS Antenna



This antenna has been designed and manufactured for vehicular NVIS operation. Using the antenna, communication can be established in $0 \sim 400$ km distance without skip zone.

NVA-210/E is a high efficiency NVIS antenna in the HF frequency band. It is tuned automatically and used where the antenna should be camouflaged. Considering proper base, this antenna can be installed on various vehicles. In addition, it can be used as a roof rack noting safety considerations.

Technical Specifications

Frequency range	2.7 ~ 15 MHz
Maximum input power	150W
VSWR	less than 2
Input impedance	
Matching Power	
	Omni-directional with NVIS capability
Bandwidth with VSWR<3	
	80KHz @ 15MHz frequency
Connector type	female N
Supply	12V
Maximum current	4A
Matching time	typically less than 10s
Communication coverage	
Weight	less than 60Kg
Material	aluminum
Operating temperature	25°C ~ +65°C
Storage temperature	40°C ~ +70°C
Environmental standard	MIL-STD-810F

NVA-211/E NVIS Antenna



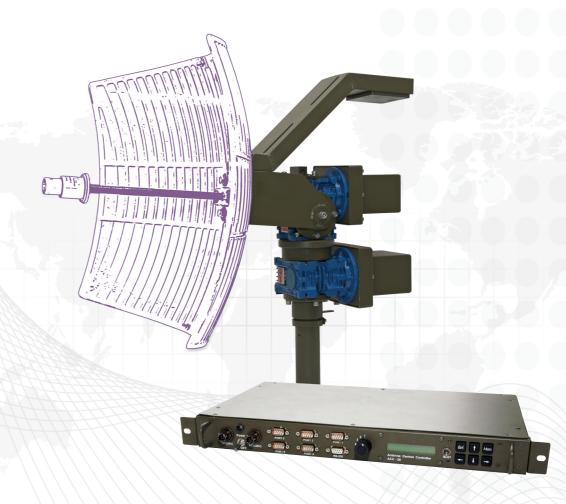
This antenna has been designed and manufactured for marine NVIS operation. Using the antenna, communication can be established in $0 \sim 1000$ km distance without skip zone.

NVA-211/E is a high efficiency NVIS antenna in the HF frequency band. It is tuned automatically and used where the antenna should be camouflaged. Considering proper base, this antenna can be installed on various boats. In addition, it can be used as a roof rack noting safety considerations. Automatic erecting/lowering is another advantage of the antenna.

Technical Specifications

Frequency range	3.3 ~ 15 MHz
Polarization	horizontal
Maximum input power	
VSWR	
Input impedance	50Ω
Matching Power	2 ~ 5 W
Matching time	typically less than 10
Matching type	
RF input connector	female TNC
Operable in HF network	√
Operable in NVIS mode & skip zone rejection	√
Out of range voltage protection	,√
Easy installation/setting up	
Supply	12~15 V
Current while tuning	maximum 4A
Communication coverage	0~1000 Km
Dimension (L×W×H)	135×30×70 cm
Weight	less than 30Kg
Material	aluminum
Operating temperature	25°C ~ +65°C
Storage temperature	40°C ~ +70°C
Environmental standard	MIL-STD-810F

ANR-210/E Antenna Rotator



ANR-210/E antenna rotator (servomechanism) has been designed and manufactured for rotating dishes with maximum 60cm diameter and maximum 3kg weight. This antenna rotator can rotate dish 350° around the Azimuth axis and -20 ~ +30 degrees around the Elevation axis. Considering used gearboxes, rotating accuracy of the system is 3 degrees. Operating temperature is -20°C ~ +65°C and materials of the rotator are different aluminum, iron, and steel components. This type of antenna rotator can be installed on highest part of communication masts with circular section and inner diameter of 40mm.

Technical Specifications

Azimuth rotating angle	350 degrees
Elevation rotating angle	
Accuracy	±3
Weight of servomechanism (without dish)	11kg
Weight of dish	2.7kg
Operating temperature	20°C ~ +65°C
Storage temperature	30°C ~ +75°C
Environmental standard	MIL-STD-810F

ANR-220/E Antenna Rotator



ANR-220/E antenna rotator (servomechanism) has been designed and manufactured for rotating dishes with $50 \sim 180$ cm diameter and maximum 15kg weight. This antenna rotator can rotate dish 45° around the Azimuth axis and 60 degrees around the Elevation axis. Its rotating accuracy is about 0.45 degree. The rotator is locked after setting the dish completely. Operating temperature is -20° C $\sim +65^{\circ}$ C. Material of the servomechanism is steel galvanized and colored with electrostatic color to resist it against corrosion. Base of the rotator is proper for installing on the pipes with $50 \sim 120$ mm diameter.

Technical Specifications

±45 degrees
60 degrees
0.45 degree
15kg
20°C ~ +65°C
30°C ~ +75°C
MIL-STD-810F

ANR-250/E Antenna Rotator



ANR-250/E is a heavy antenna rotator (servomechanism) proper for rotating dishes with about 100kg weight. It has been designed and manufactured for installing on military shelters and containers. Body of the rotator is made of steel colored with electrostatic color appropriate for using in different weather conditions.

Technical Specifications

Rotating angle	355 degrees
Accuracy	0.2 degree
Elevation rotating angle	±90 degrees
Brake torque	2400N.m
Rotating speed	4 degree/s
Tolerable wind speed	110km/h
Material of the servomechanism	galvanized steel
Power of electromotor	50W
Supply type	220VAC
Current consumption	10A
Wind area	1m2
System dimension	70 × 40 cm
Control system	manual/automatic
Standard color	electrostatic (khaki)
Maximum tolerable weight	300kg
Weight	220 ± 5 kg
Operating temperature	30°C ~ +65°C
Storage temperature	40°C ~ +70°C
Environmental standard	MIL-STD-810F

ANR-260/E Antenna Rotator



ANR-260/E is a native dual axis antenna rotator designed and manufactured for rotating dishes with about 50kg weight and 60cm diameter. This antenna rotator can be installed on various masts. Body of the rotator is made of steel covered with electrostatic color appropriate for using in different weather conditions. In addition, various types of antenna such as dish, Grid antenna, CMNI, ... can be installed on this antenna rotator. Whereas ANR-260/E is a high accuracy antenna rotator, it is proper for establishing LOS communication.

Technical Specifications

350 degrees
60 degrees
±3
11kg
2.7kg
20°C ~ +65°C
30°C ~ +75°C
MIL-STD-810F

CHR-130/E Battery Charger



Benefitting from the last technology, CHR-130/E battery charger has been designed and manufactured for charging two 12V/100A sealed acid batteries connected to each other serially to reach maximum gain and the most accurate charge control.

Charge method according to charging curve of sealed acid batteries in two fixed current and fixed voltage stages are implemented using a microcontroller. Input of the system is AC and its output meets all needed protections.

Technical Specifications

Range of the AC input voltage	180 ~ 250 VAC/50Hz
Output voltage after fully charging	29V ± 2%
Output current in fixed current status	10A ± 10%
Efficiency of the supply part	more than 85%
Battery charge level indicator	available
Correct battery connection indicator	available
Output port protection	available
Automatic error correction	available

Physical & Environmental Specifications

Dimension	24 × 21 × 9 cm
Weight	less than 3kg
Operating temperature	10°C ~ +55°C
Environmental standard	MIL-STD-810F

CHP-130/E Battery Charger & Power Supply



CHP-130/E is considered for battery charging and supplying various military stationary radios operated in voltage range of 28V. This system including AC input charges the battery and supplies the radio simultaneously so that in case that the Mains power is not available, supply of the radio is connected to the battery automatically to prevent it from the communication lost. CHP-130/E can be operated stationary or as a vehicular system.

Technical Specifications

Range of the AC input voltage	180 ~ 260 V
Frequency of the input voltage	47 ~ 60 Hz
Charge current	20A
Charge voltage	
Output ripple	less than 200mV
Efficiency of the supply part	more than 85%
Maximum output current of the load	20A

Physical & Environmental Specifications

Dimension	29 × 24 × 19 cm
Operating temperature	
Sealing type	
Environmental standard	MIL-STD-810F
Case material	resisted against shock

PWS-130/E Switching Power Supply



PWS-130/E is a switching power supply designed and manufactured to provide proper noiseless supply voltage for communication radios and equipment as primary need of military communication systems.

Benefitting from high-tech switching for preventing output voltage from dropping while antenna propagation or high power status is one important capabilities of the system so that it provides up to 22A current easily. Modularity, low weight/size, and easy operation are other capabilities of the PWS-130/E.

Technical Specifications

AC input voltage range	180 ~ 260 V
Input frequency	
Output current	22A
Output voltage range	24 ~ 30 V
Output ripple	less than 200mV
Efficiency of the supply part	> 87%
Line regulation	< 2%
Load regulation	< 2%
MTBT	at least 2000 hours
MTTR	maximum 15 minutes

Physical & Environmental Specifications

Dimension	40 × 8 × 18 cm
Operating temperature	25°C ~ +65°C
Environmental standard	MIL-STD-810F

PWS-131/E Switching Power Supply



PWS-131/E is a switching power supply designed and manufactured to provide proper noiseless supply voltage for communication radios and equipment as primary need of military communication systems.

Benefitting from high-tech switching for preventing output voltage from dropping while antenna propagation or high power status is one important capabilities of the system so that it provides up to 22A current easily. Modularity, low weight/size, and easy operation are other capabilities of the PWS-131/E.

Technical Specifications

AC input voltage range	180 ~ 260 V
Input frequency	
Output current	
Output voltage range	
Output ripple	less than 200mV
Efficiency of the supply part	
Line regulation	< 2%
Load regulation	< 2%
MTBT	
MTTR	15 minutes

Physical & Environmental Specifications

Dimension	40 × 8 × 18 cm
Operating temperature	25°C ~ +65°C
Resisted against	electromagnetic radiation
Environmental standard	MIL-STD-810F

PWS-140/E Switching Power Supply



PWS-140/E is a switching power supply designed and manufactured to provide proper noiseless supply voltage for communication radios and equipment as primary need of military communication systems.

Benefitting from high-tech switching for preventing output voltage from dropping while antenna propagation or high power status is one important capabilities of the system so that it provides up to 22A current easily. Modularity, low weight/size, and easy operation are other capabilities of the PWS-140/E.

Technical Specifications

AC input voltage range	180 ~ 260 V
Input frequency	47 ~ 63 Hz
Output current	
Output voltage range	24 ~ 30 V
Output ripple	
Efficiency of the supply part	
Line regulation	
Load regulation	
MTBT	
MTTR	

Physical & Environmental Specifications

Dimension	40 × 8 × 18 cm
Operating temperature	25°C ~ +65°C
Environmental standard	MIL-STD-810F
EMC/EMI standard	MIL-STD-461
Sealing	Rain test

CON-110/E Voltage Converter



CON-110/E is a Set Up Converter designed and manufactured for increasing level of vehicle battery voltage from 12V to proper voltage level used in various military radios that include nominal input voltage of 28V. DC input of this converter is $10 \sim 15 \text{ V}$ and its output is 28V.

Technical Specifications

Input voltage range	10.5 ~ 14.5 V
Maximum input current	55A
Output voltage	28 ± 1 V (adjustable)
Output current	18Á
Output ripple	less than 200mV
Efficiency	> 85%
Line regulation	< 2%
Load regulation	< 5%
Indoor temperature control	output cut off due to over temperature
Output current control	output cut off due to over current
	at least 2000 hours
MTTR	maximum 15 minutes

Physical & Environmental Specifications

Dimension	25 × 15 × 10 cm
Case material	aluminum
Color	olive green
Operating temperature	25°C ~ +65°C
Storage temperature	40°C ~ +70°C
Humidity	90% in temperature of + 30°C
Maximum acceptable altitude	4000m
Environmental standard	MIL-STD-810F

CON-120/E Voltage Converter



CON-120/E is a Set Up Converter designed and manufactured for increasing level of vehicle battery voltage from 12V to proper voltage level used in various military radios that include nominal input voltage of 28V. DC input of this converter is 10 ~ 15 V and its output is 28V.

Technical Specifications

Input voltage range	10.5 ~ 14.5 V
Maximum input current	100A
Output voltage	28V (adjustable)
Output current	28 ± 1 A
DC input	11 ~ 18 V
Output ripple	less than 200mV
Efficiency	> 85%
Line regulation	< 2%
Load regulation	< 5%
Indoor temperature control	output cut off due to over temperature
Output current control	output cut off due to over current
MTBT	at least 2000 hours
MTTR	maximum 15 minutes

Physical & Environmental Specifications

Dimension	40 × 8 × 18 cm
Operating temperature	25°C ~ +65°C
Environmental standard	MIL-STD-810F

U1 Cavity Filter



Duplexer (rectangular cavity filter) is a type of band-pass filter to provide capability of operating communication equipment in both transmitting and receiving modes. Power is one of the main specifications for this type of communication filters.

Filter Specifications

Frequency range	225 ~ 400 MHz
Signal bandwidth	10 ~ 18 MHz
3dB bandwidth	13 ~ 20 MHz
Group delay change amount	15ns
Tolerable passing power inside the band	50W
Antenna length	less than 830mm
Humidity	95% @ 60°C
Passing band attenuation (10MHz)	2dB at beginning of the band
Operating temperature	33°C ~ +65°C
Storage temperature	40°C ~ +70°C
Vibration standard	MIL-STD-810E Method 514-3-1,2,3

FLT-530/E Filter



FLT-530/E filter has been designed and manufactured for rejecting supply line noise of armored vehicle. This frequency spectrum affects transmitting process of radio available inside the vehicle and as a result it causes some problems for voice communication. Maximum 10A current, 28V voltage of the radio, and frequency range of 1KHz are considered to design the filter.

Actually FLT-530/E is a filter for supply line which should be function as a low-pass filter and attenuate more than 1KHz frequency spectrum in amount of 40dB.

Technical Specifications

Filter type	DC-Butter worth
Operating bandwidth	
Maximum voltage/current	
Maximum noise reduction	
in operating bandwidth	

Physical & Environmental Specifications

Case dimension	62.5 × 185 × 132 mm
Dimension of stand or filter tray	3 × 160 × 172 mm
Operating temperature	20°C ~ +65°C

HNS-010/E Handset



HNS-010/E is a military strengthened handset designed and manufactured for military operations along with various voice transceiver equipment e.g. radio communication systems. Low weight and capability of operating in different weather conditions are some advantages of the handset.

Microphone Specifications

Impedance	150Ω ± 30Ω
Frequency response	
Microphone type	
	64 ± 3 dB (1V/Pa@1KHz)

Earphone Specifications

Impedance	300Ω ± 30Ω
Frequency response	500Hz ~ 7KHz
S.P.L output	

Physical & Environmental Specifications

Weight	355gr
Operating temperature	
Sealing	rain test
Resisted against	shock, corrosion, and humidity
Environmental standard	

HNS-011/E Handset



HNS-011/E is a military strengthened handset designed and manufactured for military operations along with various voice transceiver equipment e.g. radio communication systems. Low weight and capability of operating in different weather conditions are some advantages of the handset.

Microphone Specifications

Impedance	150Ω ± 10%
Frequency response	
Distortion	less than 5% in frequency range of 300 ~ 3500 Hz
	it should not be less than 17dB in frequency range
	of 300 \sim 4000 Hz

Earphone Specifications

Impedance	1000 Ω ± 10%
Frequency response	20Hz ~ 9KHz
Distortion	less than 5% in frequency range of 20 ~ 3500 Hz
	applying 300mW power to ends of the earphone
	for 8 hours and checking its susceptibility

Physical & Environmental Specifications

Weight	355gr
Operating temperature	
Sealing	rain test
Resisted against	shock, corrosion, and humidity
Environmental standard	MIL-STD-810F

HDS-020/E Headset



HDS-020/E headset has been designed and manufactured for Special Forces and commandos in military conditions/zones. It includes microphone, earphone, and PTT button. Simultaneous use of the headset and military helmet is one of the product advantages. Benefitting from a finger PTT, soldier can establish communication and shoot simultaneously.

Headset Specifications

Microphone type	capacitive
Frequency response	50Hz ~ 10KHz
Earphone impedance	300 + 30 Ω/300 - 15 Ω

Earphone Specifications

Impedance	300 ± 30 Ω
Frequency range	
S.P.L output	

Physical & Environmental Specifications

Weight	320gr
Operating temperature	
Storage temperature	40°C ~ +70°C
Sealing	immersion test
Resisted against	shock and corrosion
Environmental standard	MIL-STD-810F

HDS-021/E Headset



Dual ear headsets are designed and manufactured for operating inside vehicles and noisy places. Advantages of this headset are benefitting from two finger and chest PTT buttons as well as capability of setting the headset size proportionate to the operator's head.

Earphone Specifications

Impedance	300 ± 30 Ω
Frequency range	
S.P.L output	

Microphone Specifications

Sensitivity	55 ± 2 dB (F=1KHz)
Frequency response	500Hz ~ 5KHz
Impedance	300 Ω + 30 Ω /300 Ω - 15 Ω
Microphone type	dynamic

Physical & Environmental Specifications

Operating temperature	25°C ~ +60°C
Storage temperature	
Weight	
Sealing	rain test
Resisted against	shock and corrosion
Environmental standard	

HDS-030/E Headset



Quality of understanding message in radio communication is very important for operator and one of the effective factors for reaching it is to use proper headset in noisy environment. HDS-030/E headset has been designed and manufactured to proper reject environmental noise passively/actively and as a result increase quality of message understanding in noisy environments. This headset can be connected to various radios and intercommunication systems. For connecting the headset to each device an individual PTT interface (chest set) is considered.

Technical Specifications

1144444444	
Headset type	mono
Passive noise rejection	27dB
Active noise rejection	
Microphone type	dynamic
Microphone impedance	5Ω
Earphone impedance	

Physical & Environmental Specifications

Weight	630gr
Cup material	
Headband material	
Operating temperature	
Environmental standard	

Armored Communication Helmet



Designing of this armored communication helmet causes to reject maximum environmental noise. For this purpose, ABS cap and leather sheath cover the ear. In addition to receive clear voice and understand the message properly, its level is so that it does not annoy ears of the operator. Used microphone is a throat microphone for converting vibration of the operator's larynx to electrical signal and transmitting it via radio or intercommunication system. There are some felt shock absorber (completely woolen and eco-friendly) inside the helmet to protect the operator's head. Tailoring of this helmet, bands, and the area around ears are made of natural materials. Easy wearing/operation, proper environmental noise rejection passively, clear message sending in noisy environments, adjusting size of the helmet proportionate to the operator's head, summer/winter type designing according to the user's requirement, and available three sizes of medium, large, and X-large are general capabilities of this helmet.

Throat Microphone Specifications

Impedance	20 Ω ± 10%	
Frequency response	600 ~ 3000 Hz	
Case material	ABS	

Earphone Specifications

Impedance	40 Ω ± 10%/1000 Ω ± 20%
Frequency range	
Sound pressure level	
Distortion	less than 5%

Mechanical Specifications

Weight of the helmet	about 1kg
Helmet size	three sizes of 55, 60, 65
Color	opaque black
Resisted against	shock and tension
Material	felt shock absorber, linen, and natural leather

Environmental Specifications

Operating temperature	33°C ~ +65°C
Humidity resistance	95%
Drop resistance	12 times from 180cm height on concrete surface

DPX-020/E Diplexer



DPX-020/E diplexer consists of one low-pass filter and one high-pass filter. It includes three inputs/ outputs so that one port is used for connecting to antenna and other two ports are considered for connecting to two radios in frequency band of VHF and V/UHF. Configuration of the two mentioned filters causes the radios use one antenna simultaneously for transmitting/receiving information. Low signal loss in passing frequency band, high isolation between the ports, no need to electrical power supply, and low weight/size are some advantages of the DPX-020/E.

Technical Specifications

Frequency range	VHF: 100 ~ 174 MHz
V/UHF	225 ~ 400 MHz
Maximum loss of passing band	I.L (max) = 1dB
Minimum isolation between the ports	25dB

Physical & Environmental Specifications

Case material	aluminum
Dimension	127 × 49 × 127 mm
Weight	less than 1kg
Operating temperature	33°C ~ +65°C
Storage temperature	40°C ~ +70°C
Environmental standard	MIL-STD-810F





Nobonyad Sq., Tehran, Iran Tel: +98 (21) 22817947 Fax: +98 (21) 26751806 P.O.Box: 19575/131 F-mail: Info@telecom-ici.com

E-mail: Info@telecom-ici.com www.telecom-ici.com