



TRANSNET

TRANSPORT

MAY 2010

SCHEDULE OF REQUIREMENTS FOR LINE BRANCHING UNITS

1. SCOPE

The schedule covers the requirements of Transnet for the supply of 4-Port Line Branching Units that will be installed in radio repeater cabinets along the Ore railway line. This equipment must interfaced with, and/or replace existing equipment.

2. OPERATING VOLTAGE

- 2.1. The Line Branching Unit supplied must operate from 13.8 volt DC.
- 2.2. The equipment must be negative earthed.

3. HOUSING REQUIREMENTS

- 3.1. The unit must be 19" rack mount unit.
- 3.2. The height of the unit must be 1U.
- 3.3. The colour of the face plate must be "Grey".
- 3.4. All terminations must be on the back of the panel.

4. SPECIFICATIONS

- 4.1. The Line Branching Unit must be a four (4) port unit that accommodates both audio and signaling.
- 4.2. The signaling of the ports must be 4-Wire E & M. The "E" lead must be isolated (opto-coupled) and the "M" lead must be relay contacts. The voltage range of the active "E" leg must be Ground to +24VDC. By means of jumpers it must be possible for the "E" return leg to be coupled to Ground or -VE (internally generated -8 volt).
- 4.3. The Line Branching Unit must be able to combine or split 4-Wire 600-ohm E & M audio circuits without loss or impedance variation.
- 4.4. Audio and signaling incoming to a port, can be configured to be re-transmitted to all other selected ports.
- 4.5. The inputs and outputs of the four ports must be 600 ohm isolated transformer coupled balanced lines.
- 4.6. The LBU must have the facility (preferably dipswitches) to set-up the ports to activate each output.

- 4.7. The input and output levels of the ports must be adjustable between -25dBm and +5dBm.
- 4.8. The Line Branching Unit must be equipped to be cascaded with another 4-port unit without losing the use of any port.
- 4.9. The front panel must have the following indicators and facilities:
- 4.9.1. "Power On" indicator.
 - 4.9.2. Indicators for each port, indicating the status of the "E" and "M" leads of the port.
 - 4.9.3. A speaker for monitoring purposes of a selected port.
 - 4.9.4. Must have a select facility/switch that will enable you to select any one of the four ports for monitoring purposes (to the speaker). Must indicate which port was selected. The selector switch must also have an "Off" position.
- 4.10. The termination of the four branching points must be a 9-pin D-type female plug/socket on the back of the panel.
- 4.11. Because the equipment must replace existing equipment, the pin configuration of the 9-pin D-type connector must be:

1	RX Line VF (Audio In A leg)	6	RX Line VF (Audio In B leg)
2	TX Line VF (Audio Out A leg)	7	TX Line VF (Audio Out B leg)
3	Ground	8	"E" Lead + (Active leg)
4	"E" Lead - (Return leg)	9	"M" Lead Out (Normal Open)
5	"M" Lead Out (Common)		

5. OTHER REQUIREMENTS

- 5.1. The equipment quoted on must comply with this schedule of requirements.
- 5.2. Transnet reserves the right to call for samples of equipment offered.
- 5.3. Line Branching Units supplied that have not been tested and approved by the Transnet Test Center will require this approval and the supplier will have to carry the cost of such an approval process.

6. QUANTITIES OF EQUIPMENT AND SERVICES TO SUPPLY

Item	Description	Quantity
1	Line Branching Unit - 4 Port	21
2	Delivery of equipment to Bellville	All

This is the end of the schedule of requirements.

CONFIRMATION OF COMPLIANCE

I hereby confirm that the equipment that we quoted on does comply with this "**Schedule of Requirements**" for the Line Branching Units. Any variation to this schedule of requirement is indicated and listed on our attached schedule.

Please indicate your compliance with a mark in the corresponding block

The equipment quoted on does fully comply to this schedule of requirements	
The equipment quoted on does not fully comply to this schedule of requirements and the differences are listed on our attached schedule	

Name

Company

Signature

Date

PREVIEW COPY ONLY



TRANSNET

MAY 2010

SCHEDULE OF REQUIREMENTS FOR 48 to 12VDC INVERTOR UNITS

1. SCOPE

The schedule covers the requirements of Transnet for the supply of 48 to 13.8 Volts DC isolated invertors that will be installed in radio repeater cabinets along the Ore railway line. This equipment must interfaced with, and/or replace existing equipment.

2. HOUSING REQUIREMENTS

2.1. The unit must be supplied as a freestanding or wall mount unit. Two of these units must be able to fit on a 19" modem tray.

2.2. The unit must have four mounting holes in a rectangular format. The distance between the centre of the holes must be:

- Short side = 127 mm
- Long side = 155 mm

2.3. The unit must be supplied with plugs and leads (± 2 meter in length).

3. SPECIFICATIONS

3.1. The operating range for the input voltage to the inverter must be between 45 Volts DC and 60 Volts DC. The nominal input voltage will be 48 Volts DC.

3.2. The output voltage must be 13.8 Volt DC at 15 Amp

3.3. The power rating of the unit must be a minimum of 250 Watt continues.

3.4. The input and output must be isolated.

3.5. The ripple and noise level must not exceed 100 mVp-p.

4. OTHER REQUIREMENTS

4.1. Equipment must comply with this schedule of requirements.

4.2. Transnet reserves the right to call for samples of equipment offered.

4.3. 48 to 12 Volts Inverters supplied that have not been tested and approved by the Transnet Test Center will require this approval and the supplier will have to carry the cost of such an approval process.

5. QUANTITIES OF EQUIPMENT AND SERVICES TO SUPPLY

Item	Description	Quantity
1	Inverter - 48 VDC to 13.8 VDC @ 15 Ampere	19
2	Delivery of equipment to Bellville	All

This is the end of the schedule of requirements.

CONFIRMATION OF COMPLIANCE

I hereby confirm that the equipment that we quoted on does comply with this "**Schedule of Requirements**" for the 48 to 12 VDC Inverter Units. Any variation to this schedule of requirement is indicated and listed on our attached schedule.

Please indicate your compliance with a mark in the corresponding block

The equipment quoted on does fully comply to this schedule of requirements	
The equipment quoted on does not fully comply to this schedule of requirements and the differences are listed on our attached schedule	

Name

Company

Signature

Date