

General Update

- SPR
 - Electric panel work started
 - Ordered cable management for Analog Racks
- Planning of tone measurement of RFCBs
- Planning of power measurement after RF 4-way splitter
- Investigate IF ripples
- Observing Campaign
 - SETI-nodes OS INSTALLED
 - Install of 3090 GPUs today
- General update
 - LNF 6 spare LNAs ORDER PLACED (expected in Feb.)
 - Components for RFSoC enclosure DONE
 - Missing optocoupler PCB design
 - IF gain Control

Antonio Feed update

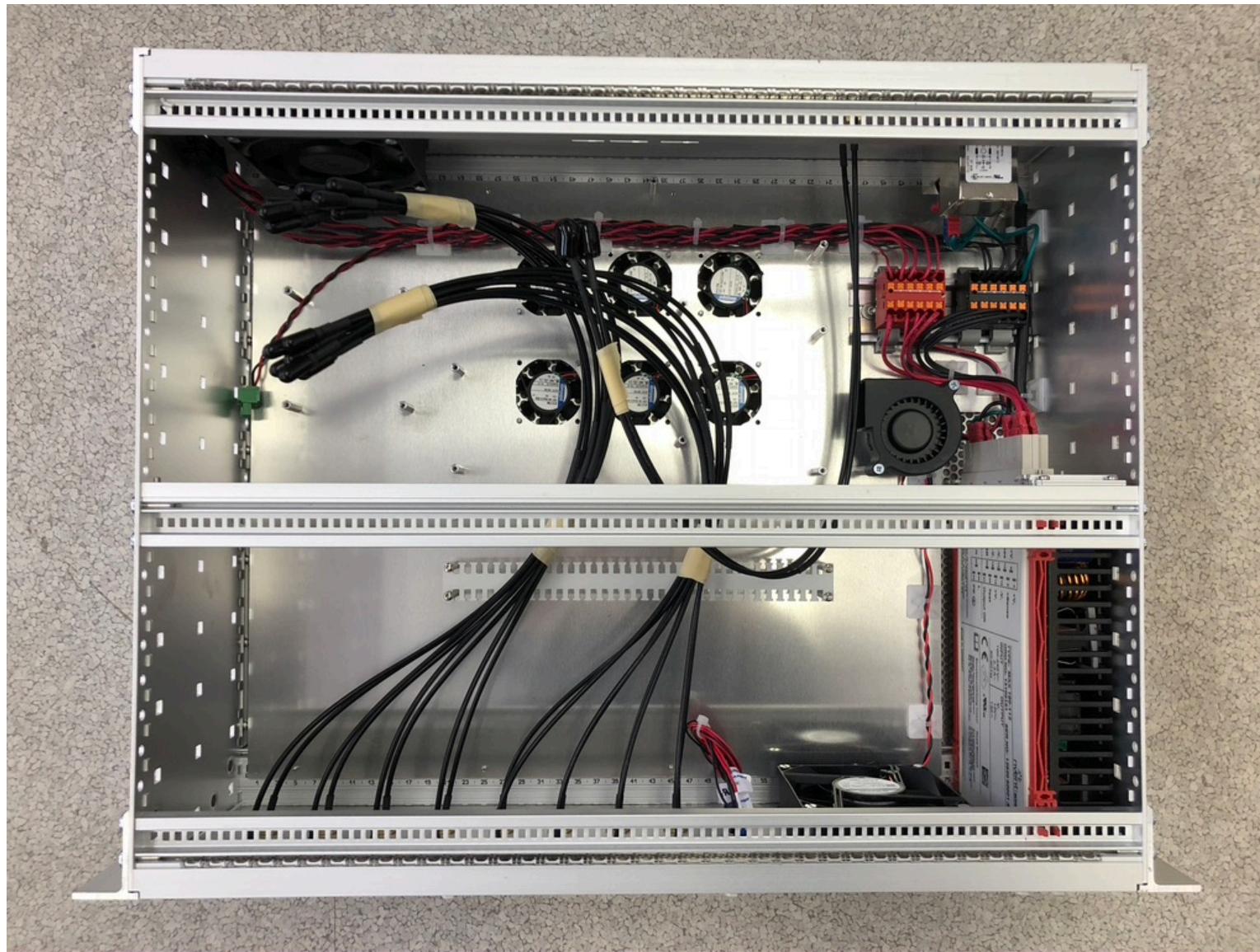
- Feeds
 - 5 feed bases ready for installation
- Retrofit feed base:
 - started on second round of retrofits
- MINEX:
 - two more will follow
 - Waiting for quotes for:
 - 7 feeds (inner)
 - 2 new build (inner)
 - 4 glass domes
- Other:
 - Quote arrived for 4 glass domes
 - Received mechanical specification from Minex
 - Diaphragm pump repair
 - Ordered Kit
 - Updating Maps for HCRO

Parts missing for final build out

- Feed Base
 - 1 Glass Dome (quote for 4)
 - 6 diaphragm pumps ORDERED
 - 1 set service parts ORDERED
- 2 new build pyramids (20 total)
- 6 SS coax cables from LNA to base
- 3 48V power supplies to be installed at antennas (collected from Minex)
- 4 LNAs (6 ordered)
- UT-034-95 coax cable ordered (60ft)
- Trip to Minex to collect last 2 feed bases and two gold-plated log-periodic feeds. As well as spare PCBs for antennas, and other material.



RFSoC Enclosure



RFSoC Enclosure

- Will be picked up Today
- Documentation DONE (Sarah)



RFSoC Documentation

2 CAD DESIGN AND DRAWINGS

1 General

This document outlines general information regarding the RFSoC enclosure such as the design, cable connections, power supply, and missing parts. This information is aimed at assisting with the installation of the HTG-ZRF16 board into the enclosure by High Tech Global.

2 CAD Design and Drawings

This section includes a description of the CAD design. This enclosure is still a work in progress, however, and will not be finalized until after the prototype is fully completed and installed. Thus, the design shown and described is subject to change.

An image of the CAD model is shown in Figure 1. One can see the internal arrangement of the HTG-ZRF16 board (middle rear), power supply (front right), and directional fans (left rear and front right). The lid of the enclosure, not shown in this Figure, is perforated to further increase cooling. The panel facing the viewer in Figure 1 is considered the front panel. This is important to note for future sections.

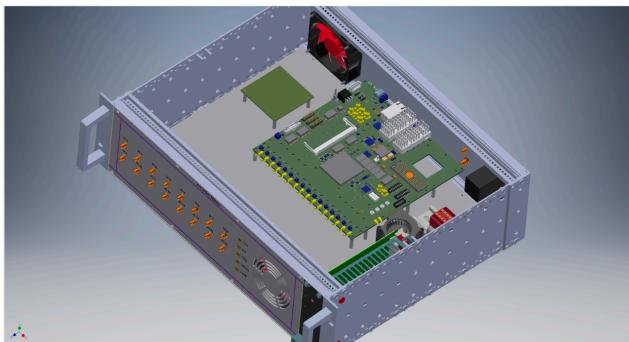


Figure 1: Schematic diagram of the prototype RFSoC

3 CABLE CONNECTIONS

3 Cable Connections

This section includes the locations of where cables enter the enclosure and connect to the board within. Note that the given orientation of cable connection need not be followed if an alternative orientation is more sensible; however, please document any of these alterations. Furthermore, if the 100 GbE P0, 100 GbE P1, and/or 1 GbE connection holes do not line up with board, they can be altered to do so. Again, if any such alterations are needed, please document them.

Table 1: Cable Connections for Front Panel

Panel Label	Board Connector Number	Type of Board Connector
IN-1	J16	SSMC
IN-2	J58	SSMC
IN-3	J15	SSMC
IN-4	J57	SSMC
IN-5	J14	SSMC
IN-6	J56	SSMC
IN-7	J13	SSMC
IN-8	J55	SSMC
IN-9	J12	SSMC
IN-10	J54	SSMC
IN-11	J11	SSMC
IN-12	J53	SSMC
IN-13	J10	SSMC
IN-14	J52	SSMC
IN-15	J9	SSMC
IN-16	J51	SSMC

Table 2: Cable Connections for Back Panel

Panel Label	Board Connector Number	Type of Board Connector
1 PPS 10 MHz	J17	MCX
	X7	SMA

4 POWER SUPPLY & ADAPTER

4 Power Supply & Adapter

The RFSoC's HTG-ZRF16 board and the cooling fans are powered with a Schroff Max 180. The unit is mounted directly to the front panel of the enclosure. The operating temperature range of the power supply is from -25°C through 85°C and the technical specifications are shown in Table 3. The power entry module, mounted in the back panel, combines an IEC inlet and a mains filter with a dual-fuse holder. The AC supply fuse current rating for this unit is selected to be 2 A.

Table 3: Power Supply Specification

Description	Output Voltage	Output Current	Power W	Input Voltage
MAX180-112	12 VDC	13A	156W	100 ~ 240 VAC

The Molex Headers & Wire Housings 6CKT RECPT HSG (part number: 45559-0002) is shown in Figure 2. This 6 pin 12V power adapter is for the HTG-ZRF16 board. Before installation, please check the polarity.

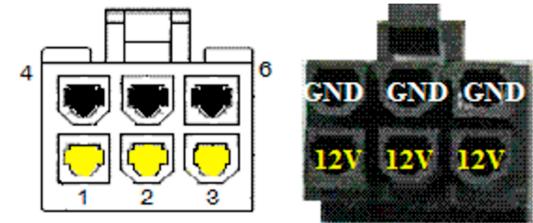


Figure 2: The Molex board power adapter

RFSoC Documentation

6 INCLUDED IN SHIPMENT

5 Missing Parts

This enclosure is a work in progress. As a result, there are some parts that have yet to be installed. Most notably, the control board for the front panel's LEDs is missing (circled in Figure 3). This PCB will connect to the GPIOs of the RFSoC board and then to the front panel. However, as yet, this board has not been acquired.

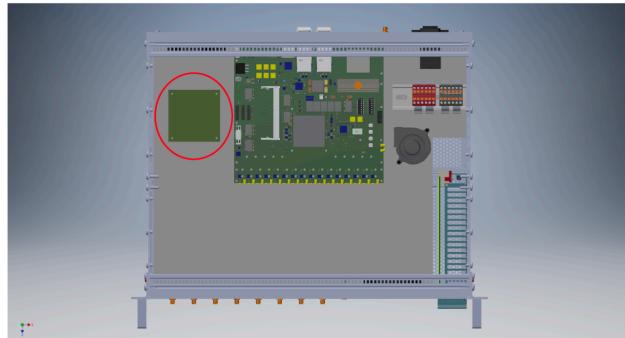


Figure 3: RFSoC CAD highlighting the LED control board

6 Included in Shipment

- RFSoC enclosure (Figure 4)
- M2.5 screws and washers of various length for mounting the HTG-ZRF16 board (Figure 5)
- Screws for lid (Figure 5)
- Cable ties (Figure 5 & 6)

All of the items shown in Figure 5 are just inside the enclosure once the top is removed. When cable tying, please reference Figure 6 to see where they should be tied to.

6 INCLUDED IN SHIPMENT



Figure 4: RFSoC enclosure before shipment



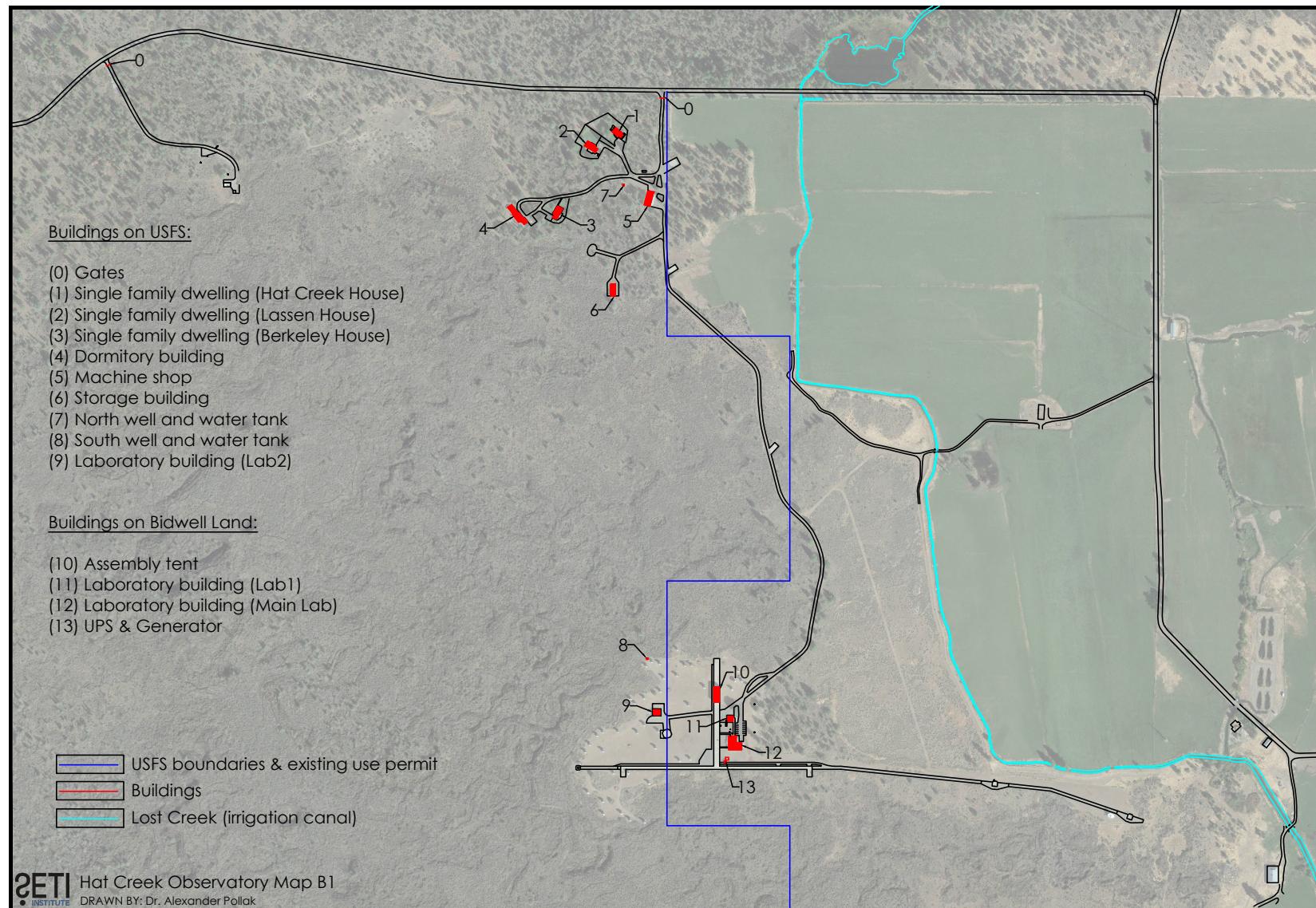
Figure 5: Screws, washers, and cable ties

SPR removal of old hardware !

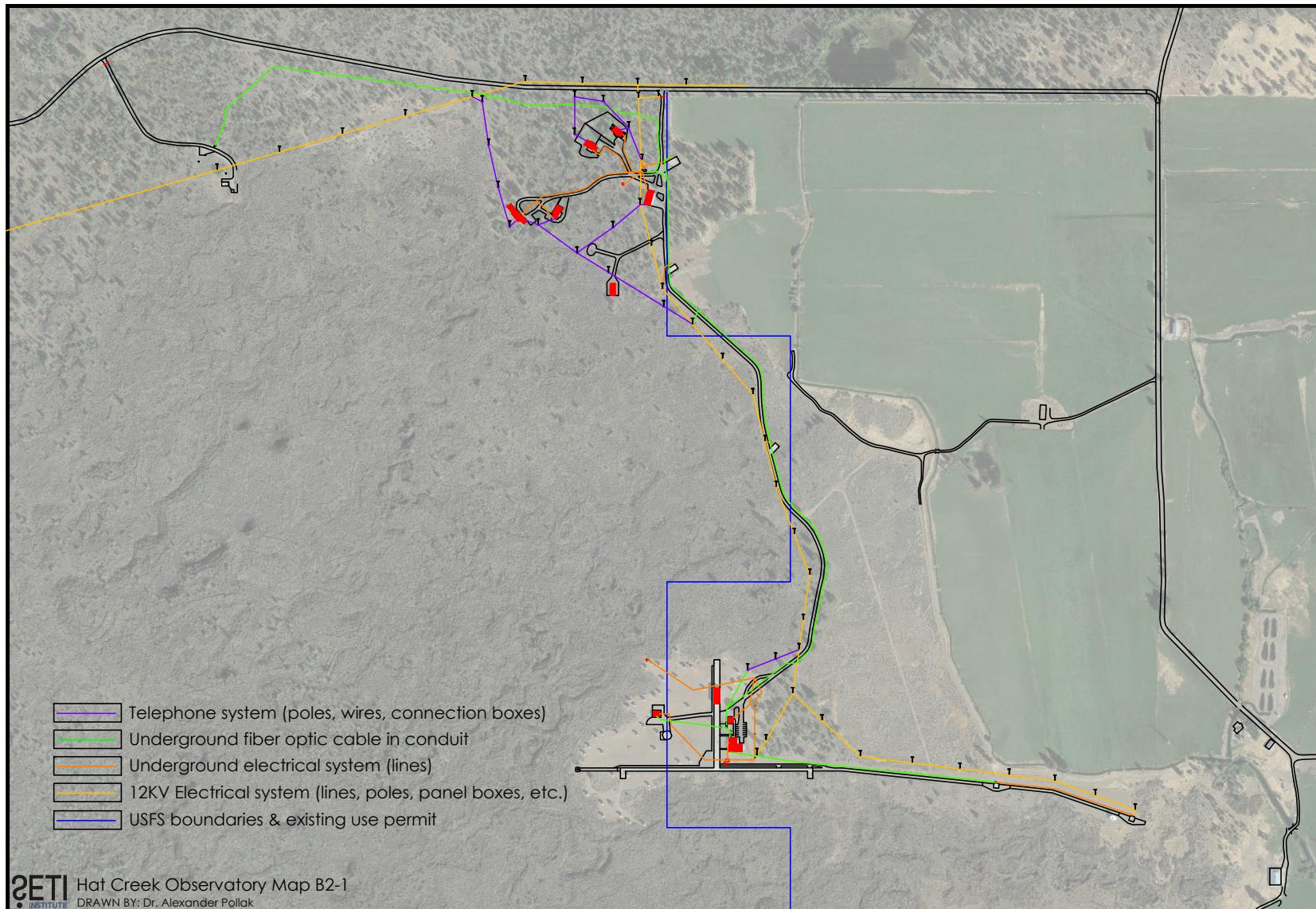
- Cable management ordered.



HCRO MAP



HCRO MAP



HCRO MAP

